Amendment to the Claims

1. (Previously Presented) A method for performing electrophysiological measurements comprising the steps of:

(i) providing a substrate for making the electrophysiological measurements upon which at least one cell can be arranged;

(ii) providing a plurality of cells, each cell comprising a different heterologous DNA sequence derived from a DNA library, wherein each cell expresses the heterologous DNA sequence it comprises:

(iii) arranging the plurality of cells provided in step (ii) on the substrate to permit detection and/or measurement of a change (in comparison to a control cell) in the electrophysiology of each cell, said change being a result of expression of the heterologous DNA sequence, and

(iv) identifying at least one cell of interest, which shows at least one phenotypic change characterized in that, the method comprises the further steps of:

isolating the cell of interest, and/or genetic material therefrom; and isolating mRNA from the cell of interest identified in step (iii).

2. (Previously Presented) The method as claimed in Claim 1, wherein the method further comprises the step of sequencing the genetic material.

3. (Currently Amended) The method as claimed in Claim 2, wherein the method further comprises the step of storing or recording the sequence information on an information carrier [[,]] ~~such as a computer disk~~.

4. - 6. (Cancelled).

7. (Previously Presented) The method as claimed in Claim 1, wherein the DNA library is a cDNA library.

8. (Previously Presented) The method as claimed in Claim 1, wherein the change in the electrophysiology of the cell is detected and/or measured by patch clamping.

9. (Previously Presented) The method as claimed in Claim 1, wherein the cell is treated with a test agent before step (iii).

10. (Previously Presented) The method as claimed in Claim 9, wherein the test agent is selected from at least one of the following: small organic molecules, small peptides, neurotransmitters, hormones and cytokines.

11. (Previously Presented) The method as claimed in Claim 1, wherein the cell is an animal cell.

12. (Previously Presented) The method as claimed in Claim 1, wherein the animal cell is selected from: Human Embryonic Kidney 293 (HEK293), Chinese Hamster Ovary (CHO), COS, MDCK, NG108, NIH3T3 or T84.

13. (Previously Presented) The method as claimed in Claim 1, wherein the cells are arranged at spaced-apart locations in or on the substrate.

14. (New) The method as claimed in Claim 3, wherein said information carrier is a computer disk.